

ELSBERRY PLANT MATERIALS CENTER

2010 Progress Report of Activities



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**Ozark Germplasm little bluestem from a
production field from Missouri Native Seed.**
Photo submitted by George Seek

Release of Ozark Germplasm Little Bluestem - *Schizachyrium scoparium*, Michx. Nash

By Ron Cordsiemon, PMC Manager

There has been a need for an adapted and improved variety of little bluestem for pasture and range seedings, surface mine reclamation, critical area planting, wildlife plantings, recreational area development and other conservation uses in Missouri, Iowa, and Illinois. Currently there are no varieties of little bluestem on the market that have an origin within the three-state service area. In 2010, the Elsberry PMC released Ozark Germplasm little bluestem, a selected class release selected for the southern half of the service area.

A study to select an improved little bluestem was approved in 1996 and 130 collections

were made from the 3-state service area. A field evaluation planting was established and over the first two years evaluations consisted of survival, height, late dormancy, and form ratings. In 1999-2001, evaluations for forage quality, production and plant vigor were taken and selections were made. By 2002, a crossing block had been established from the selected plants. Seed from this planting was germinated in the greenhouse and selections for quick germination were taken. These plants were used to establish a breeder block. These plants were, once again, evaluated based on vigor, amount of forage production, leafiness, drought resistance, disease and insect resistance, and late maturity. Plants not selected were removed from the planting and all remaining plants were allowed to cross pollinate. These plants are now the breeder plot for accession 9083271, Ozark Germplasm little bluestem. Foundation plantings have been established and the PMC

has seed available of Ozark Germplasm for potential growers. In two separate field plantings, one in central Missouri, the other in northeastern Missouri, Ozark Germplasm little bluestem was compared to Aldous little bluestem. Aldous is a variety of little bluestem developed in Kansas. Ozark Germplasm little bluestem out performed Aldous based on seedling vigor and stand establishment, in both comparisons.

OZ-70 Big Bluestem adapted to Northern Missouri

By Jerry Kaiser Plant Materials Specialist

This 2009 field planting was planted by the landowner and conducted excellent management on the stand the 1st growing season. The second year in 2010 the landowner completed 2 harvests for hay with a total of 3 tons/acre. The landowner was pleased with the quantity and quality of forage produced by OZ-70 Big Bluestem.



OZ-70 Big Bluestem Field Planting in Livingston County, Missouri.

Field Training Planned for New Employees by FTS/PM staff.

By Jerry Kaiser, Plant Materials Specialist

A 3 day workshop has been approved by the leadership team in Missouri to be offered this summer at the Elsberry PMC.

This field experience will give new employees the opportunity for hands on experience for the following:

- *Equipment training: Tillage and sprayer equipment, planters, drills and harvesting equipment.
- *Native plants, weeds and seed identification
- *Tree identification
- * Plant Materials Program –from collections, seed production, field plantings.
- *Basic soils and soil health
- *Grazing management and fencing techniques
- *Basic surveying

PMC Field Day and Tours

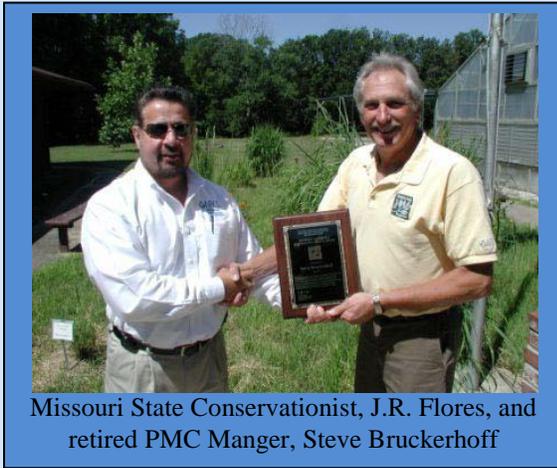
By Ron Cordsiemon, PMC Manager

In 2010, the Elsberry Plant Materials Center



A tour group makes their way through some of the many seed production fields at the PMC.

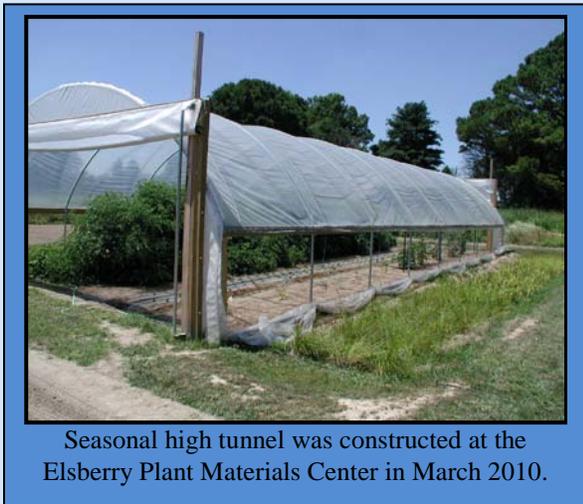
was host to several tours for different groups. One tour in particular was given to a group from the Soil and Water Conservation Society. The SWCS National Conference was held in St. Louis and members had the opportunity to select a tour of their choice. There were seven different tours and the Elsberry PMC was one of the tour stops. SWCS enthusiasts from as far away as Alaska and Connecticut visited the PMC.



Missouri State Conservationist, J.R. Flores, and retired PMC Manger, Steve Bruckerhoff

The annual field day was a special event this past year, as it was the last field day for retired PMC manager, Steve Bruckerhoff. Steve was well-known throughout the 3-state service area and the plant materials community and it showed as approximately 90 people turned out to wish him a happy retirement.

Seasonal High Tunnel Demonstration
By Nick Adams, Biological Technician

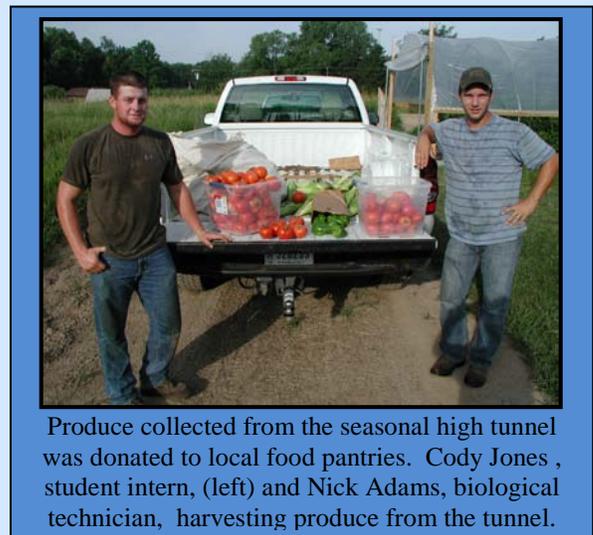


Seasonal high tunnel was constructed at the Elsberry Plant Materials Center in March 2010.

With the announcement of the high tunnel pilot program through EQIP, the Elsberry Plant Material Center set up a high tunnel demonstration site. The high tunnel constructed at the PMC was 24’x56’ for a total of 1,344 square feet. The total cost of the high tunnel at the Elsberry Plant Materials Center was \$3,004.69 with approximately 90

hours of manpower to install the structure. Two “detention basins” were implemented on either side of the high tunnel to capture run-off. A simple production comparison of a high tunnel planting plot and a conventional open air planting plot were established. We divided up the planting space in each plot into four rows with the first row being 25’ of green beans, 21’ Brussels sprouts, and 7’ of lettuce all direct seeded. The second row contained 32 tomato plants and 13 green pepper plants all planted from established plants in plastic mulch. Row three was planted in the plastic mulch with plugs of Foxglove Beardstongue (*Penstemon digitalis*). The last row consisted of 5 blueberry plants and 5 thornless blackberry plants.

Plants were started in the high tunnel about one month earlier than the outside planting. Our first harvest dates were earlier for each of the vegetables in the high tunnel except for the tomatoes which were harvested at the same time. However, there was a significant difference between the two plots in the production quantity over the growing season. The high tunnel plot in some cases produced more than twice the amount of produce than the outside plot. The PMC donated 1946.7 pounds of produce from the two plots to local food pantries and nutritional centers in the Elsberry and Troy, MO areas.

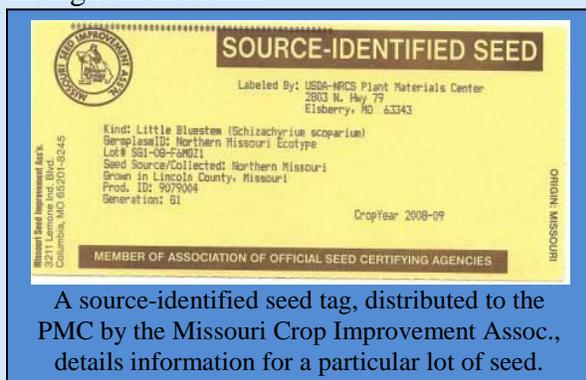


Produce collected from the seasonal high tunnel was donated to local food pantries. Cody Jones, student intern, (left) and Nick Adams, biological technician, harvesting produce from the tunnel.

Training Seed Packaging Labels

By Jerry Kaiser Plant Materials Specialist

Seed tag training was provided in Missouri for state, area, and field office NRCS and FSA personnel in 2010. Plant Materials Specialist, Jerry Kaiser, conducted the training to over 400 individuals within the agencies at various area workshops throughout the state.



A source-identified seed tag, distributed to the PMC by the Missouri Crop Improvement Assoc., details information for a particular lot of seed.

The presentation highlighted the new [Agronomy Tech Note MO-38](#) developed by Jerry Kaiser, PMS, to better understand seed tags and the seed industry terminology. As quoted “the key to getting the best quality seed and the right released product for a conservation practice is to look at the information provided on the seed tag.”

[Agronomy Technical Note MO-38](#) dated February 2010 is a reference that explains information on what to review on a Seed Tag, example of Seed Tags, and terminology used in the seed industry. This technical note is posted on Missouri webpage, and was also provided to Iowa and Illinois for posting as a technical note.

Seed Production Using Plastic Mulch and a Vegetable Planter

By Ron Cordsiemon, PMC Manager

Seed production of forbs and sedges has always been a guessing game when it comes to trying to control weed competition. In the spring of 2010, the staff at the Elsberry PMC purchased two new pieces of equipment on a recommendation from a fellow partner, Greg Houseal, who works at the University of

Northern Iowa’s Tallgrass Prairie Center. Greg had started using plastic mulch and a vegetable planter wheel to establish seed production plots. The plastic mulch layer inhibits the weeds from germinating and allows the forbs and sedges a better chance of



Jerry Kasier, Plant Materials Specialist (left), and Ron Cordsiemon, PMC Manager (right) and Nick Adams, Biological Technician (tractor) planting crested sedge (*Carex cristatella*) in plastic mulch.

survival.

The equipment the PMC purchased, a 3-point hitch implement, allowed for a plastic mulch layer to be securely laid over the tilled ground. Once the plastic was in place, another implement would follow-up with 2 people riding on mounted seats. A wheel with blunt spikes would punch holes in the plastic and soil, while a water tank, mounted above the wheel, would flood these holes with water. A plug is then placed into the opening in the plastic. This process seals the new plug of forbs or sedges into the soil and provides an excellent environment for plant growth.

To learn more about these and other Elsberry PMC activities visit our web site:

<http://www.Plant-Materials.nrcs.usda.gov>

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